fabricante de equipamentos térmicos

Installation and User's Manual

NMV Series

It is important to read this manual carefully before installing and using your appliance.

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1. Introduction

First of all we would like to congratulate you on purchasing your ADF appliance.
The result of a constant search for innovation and quality, these appliances are designed and constructed in accordance with both current Portuguese and European legislation, guaranteeing excellent heating performance in the homes where they are installed.
So that you can enjoy the full benefits of the appliance you have just purchased, this manual will provide all the information you need for its correct installation and use.

Wood – An ecological form of energy

As a totally renewable resource, wood is the most ecological and economical way of producing heat in your home. The quantity of CO2 released during the combustion of wood is no higher than what would be released from its natural decomposition, which has occurred over millions of years on the planet. The carbon dioxide released in its burning and that which is absorbed during its useful life balances itself out, which means it does not contribute to the green house warming effect of the planet. Wood ash is a fertiliser that is rich in minerals and easily absorbed into the atmosphere in a totally ecological way.

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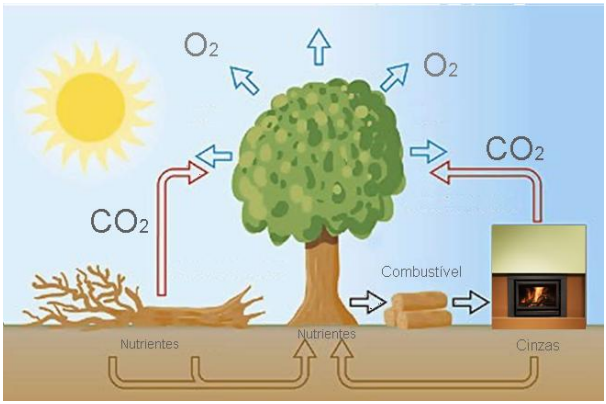


Wood – Utilization

Selection
Not all wood has the same heating power. In general, opt for hardwoods such as oak, beech or fruit trees, the wood of which produces beautiful flames and embers that remain glowing for a long time. Don't use logs that are too big.

Drying
whatever wood you choose it must be completely dry: damp or green wood doesn't heat as well, since a large part of the energy is consumed in the evaporation of the water it contains. Besides this, damp wood produces a large amount of smoke and a poor flame, which creates soot inside the stove, on the glass and in the chimney. Wood should be covered or sheltered from the rain, but well ventilated. Generally the wood should have a drying period of two years.

Avoid Using
Resinous woods: These woods release a lot of heat but burn quickly and produce embers and resin which dirty the chimney and the interior of the stove.

Never use
Wood which has varnish, paint, cement and glues. These can release toxic gases, besides damaging the stove.

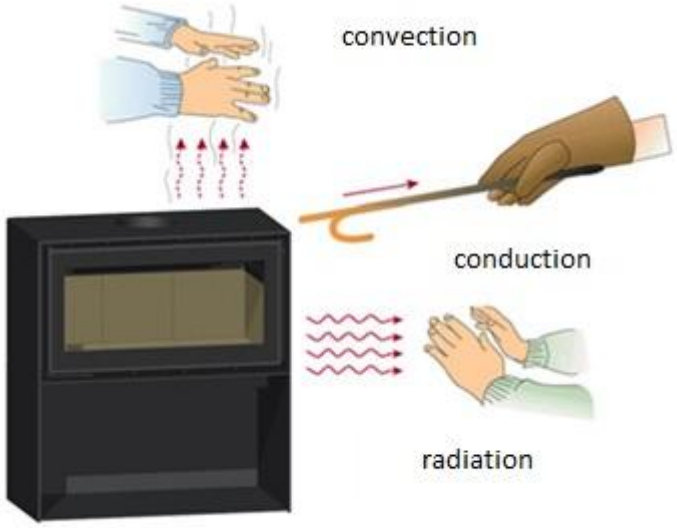
All ADF appliances are designed to burn wood, and only wood that is dry with less than 20% humidity. Damp wood or other types of fuel that are not recommended will lead to loss of guarantee.

Heat Propagation

There are three forms of heat transmission in a Biomass appliance. However it is through radiation that your appliance will gain the greatest benefits.

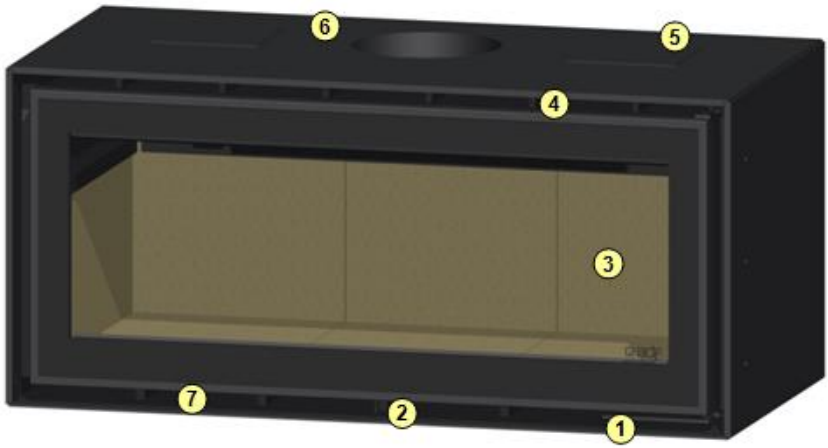
Your stove will naturally cause air movements which are sucked into the lower part and released through the upper part of the stove. This phenomena is called *natural convection*. You may also choose to install a fan in the base of the stove in order to obtain *forced convection* so as to increase the speed at which hot air is expelled and the distance that it reaches.

The fan is thermally controlled by a thermostat that is calibrated for 50 ° C, So the venting begins when this temperature is reached and rests when temperature drops below this value.



2- Diagram of equipment

NMV Series



Pos.	Designation	Pos.	Designation
1	Door handle	6	Flue outlet
2	Air combustion control	7	Admission convection
3	Refractory firebox panel		
4	Released convection		
5	secondary convection outlet (hot air distribution)		

Note:In the firebox version, compartment beneath the combustion chamber should not be used as wood deposit.

3- Technical Features

Technical Features	Un.	680 NMV	820 NMV	820 NMV DF	1000 NMV	1000 NMV DF
Nominal Heat Output	kW	11,3	12,5	12,5	13	13
Energy Efficiency	%	68	66	66	61	61
CO emissions	%	0,8	0,6	0,6	0,5	0,5
Average temperature of combustion products	ºC	450	450	450	490	490
Chimney draft at nominal heat output	Pa	12	12	12	12	12
Minimum distance from combustible materials	mm	1500				
Recommended maximum load	kg	2,7	3,5	3,5	4,2	4,2
Recommended fuel		Wood				
Maximum humidity of wood	%	20				

	Width (mm)	Height (mm)	Height with Ventilators (mm)	Depth (mm)	Flue outlet (mm)	Weight (kg)
Rc 680 NMV	690	465	565	450	180	125
Rc 820 NMV	830	465	565	450	200	148
Rc 820 NMV DF	830	465	565	550	200	155
Rc 1000 NMV	1010	465	565	550	200	170
Rc 1000 NMV DF	1010	465	565	550	200	178
Sl 820 NMV P	830	880	-	450	200	175
Sl 820 NMV S	830	915	-	450	200	175
Sl 820 NMV DF P	830	880	-	550	200	182
Sl 1000 NMV P	1010	880	-	495	200	197
Sl 1000 NMV S	1010	915	-	495	200	197
Sl 1000 NMV DF P	1010	880	-	550	200	205

Warnings

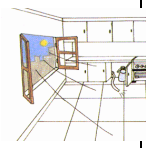
A wood-burning stove is, by nature, an appliance which operates at high temperatures. This means paying attention to potential situations of risk and making sure they are avoided. With this in mind, please pay particular attention to children whose natural curiosity may put them at risk and, therefore, should be kept well away from any heating appliance.

The appliance you have just purchased must be installed by a professional to ensure it's proper and safe functioning. Remember that all current safety regulations must be complied with. The appliance must be installed in such a way as to make maintenance easy. The incorrect installation of the appliance could cause serious damage to the appliance and put people and property at risk.

Before installing your appliance make sure that:

- The floor is not inflammable;
- The floor has adequate resistance capacity;
- The room where the appliance is to be installed is well ventilated;
- Safety distances from combustible materials are respected as mentioned in this manual.
- Your appliance must be installed in a non-permanent way making access to it easy, to ensure the general maintenance of both the appliance and chimney.
- The appliance must in no circumstances be cemented into its location.

Important Recomendations

	It is recommended that you engage your installation by a qualified and accredited professional.
	Be careful, the outside of the stove is hot. Use suitable protective gloves whenever you need to touch any of the hot parts of the appliance or to load the wood while it is working.
	Don't use your appliance as an incinerator. Burning domestic waste could cause the release of toxic fumes and cause the early corrosion of the components of your appliance and the loss of guarantee.
	The appliance is not a toy! Keep children away from it.
	Check that the flue system is properly sized, ensuring a good run and that meets European standards, so that no undue flue outlet to the surroundings occurs.
	Keep any possible inflammable materials at a safe distance from the appliance (minimum 1.5 metres).
	NEVER use combustible liquids.
	The first time you use your stove you may notice a slight odour from the curing of the paint. Avoid inhaling it and ventilate the surrounding space well.
	In the case of adverse weather conditions that disrupt the circulation of smoke is advisable not to utlização equipment.

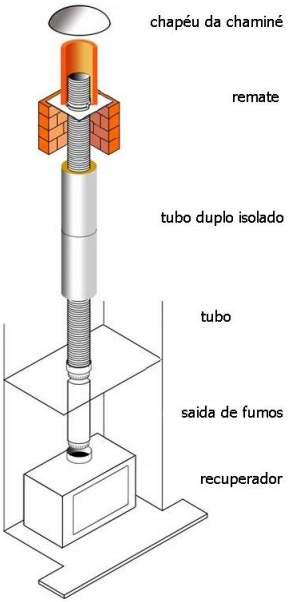
4-Installation

All local regulations, including those that reference to national or European standards must be adhered to when installing the apparatus.

The Chimney

You will only get the maximum efficiency from your appliance if the chimney is also efficient. Before installing your ADF appliance check that the chimney is clean and unobstructed. If you have any difficulties ask a professional to examine the chimney.

Both the height of the chimney, as well as breaks in pressure in the chimneys are directly related to your drawing, so the line must have the most straight as possible, or failing which trajectory never suffer higher angular deviation at 45 º to the vertical. It is also ideal that the construction of the conduct of the flue passes through the interior of the building thus ensuring better insulation, and so avoid unwanted condensation originated by temperature differentials, which sooner or later may damage the system. (Not suitable are the flue ducts from the outside and without insulation).
The chimneys must have individual outputs flues, and is totally inadvisable grouping several chimneys in collective behaviors. The outlet smoke pipes must have constant section from the output of the stove to exhaust venting to the atmosphere. Recommended for the exits for fumes of fireplaces dimensions are defined in the Technical data table.
The hat of the chimney must not possess an obstructive manner towards the currents of outer air, ie it must allow air to enter through the side exit can access the opposite side causing no air currents descendants.



Encasing the fireplace

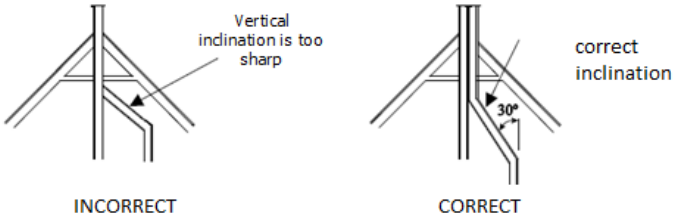
The appliance must be installed in areas that have adequate bearing capacity and are composed of non-combustible materials. If the area where the equipment will be installed no longer fulfills this requirement, appropriate measures should be taken (for example, a plate load distribution). Flame-resistant material should be placed high temperatures across the back of the stove, with a minimum thickness of 20 cm.

It should be noted that the stove should never be physically restrained in any direction once should insure themselves the phenomena of thermal expansion that the materials will be subjected. It is considered prudent that the clearance for expansion is approximately 5 mm to each side of the fireplace.

Should never obstruct the vents! It is also desirable that in homes with good insulation and / or possessing contiguous spaces with exhaustion, is placed a grill vent connected to the outside of the house with about 100 cm2. Thus supplies the surrounding space with a good supply of oxygen in order not to exhaust, and air masses moving in the right direction. As for the air intake grilles must be taken into account that must be positioned so as not to be easy clogging. When simultaneous with other heating appliances operating shall ensure the existence of sufficient oxygen.

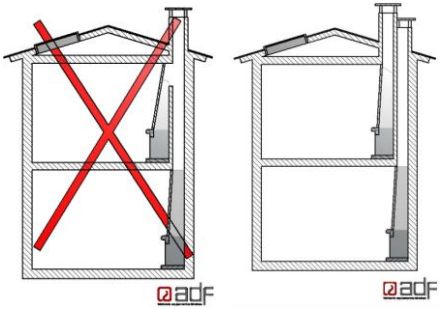
Tubing

You will only get the maximum efficiency from your appliance if the chimney is also efficient. Before installing your ADF appliance check that the chimney is clean and unobstructed. If you have any difficulties ask a professional to examine the chimney.
Since both the height of the chimney and any breaks in pressure in the chimney are directly linked to its draft, the conduits should have the straightest trajectory possible or where that is impossible, the angle shouldn't exceed 45º

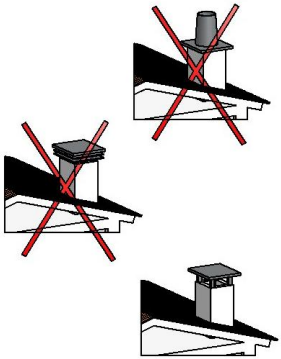


Ideally, the flue conduit is constructed to pass up the inside of the building ensuring a better insulation and avoiding any unwanted condensation originating from differences in temperature that sooner or later could damage the system. The tubing should be preferably in stainless steel and thermally insulated along its whole length in order to avoid condensation specially in cold climates.

Chimneys should have a single flue and the grouping of several chimneys into a shared flue is not advised.

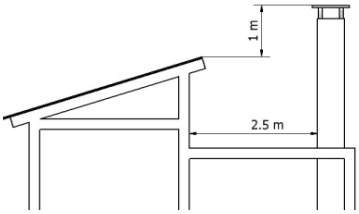


The flue conduit for conveying the smoke must be unbroken from leaving the appliance to the evacuation of smoke into the atmosphere.



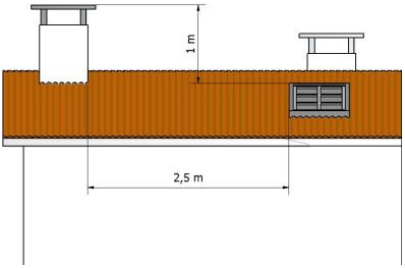
The form of the chimney cap must not obstruct currents of air from the outside. In other words it must allow the air to enter through one side and leave through the opposite side so as not to cause descending currents of air.

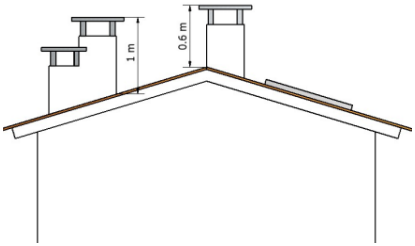
The sizes recommended for flues for the appliance can be found on page 7 of this manual. As you can see, the correct installation of the chimney is a crucial aspect for obtaining the best possible performance from your appliance and, given its technical nature, it is subject to different regulations which should be taken into account and complied with.



The need to gain access for the maintenance of the tubing must be taken into account, therefore the fixing of the tubing should not be permanent.

The chimney must be at least 0.6m from the highest part of the roof. In any other area which is not the highest point, it should be at least 1 m above the roof. Your chimney should be cleaned at least once a season.





Note:

- The equipment must not be cemented its surroundings under any circumstances, leave enough space to be able to expand and contract freely, typically 5mm around the perimeter space. Desirable to connect at least one of the vents .

- Should position the air inlet louvers so as not to be blocked.

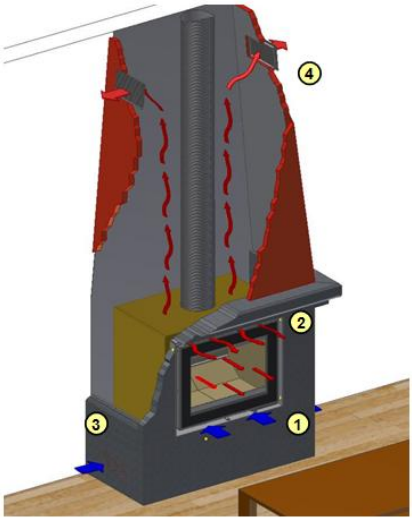
- When installing the appliance, all local regulations, including those relating to national and european standards must be respected.

anti-condensation system

#1 Step - Fit the smaller part of the pipe (male), in the hole of the equipment, and in the other extremity of the pipe the diameter will be bigger (female)

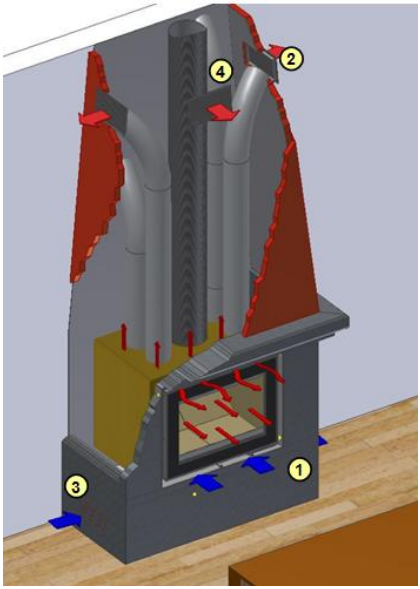
#2 Step – If you want to dock installation accessories (such as: hat) the use the bigger diameter (female) you must use an union to convert the diameter.

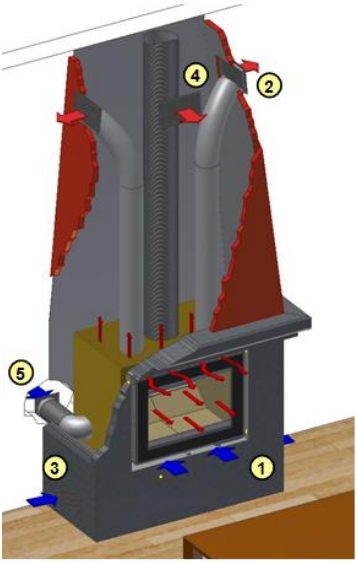
Convection distribution – installation examples



1. Entrance of air into the appliance
2. Exit of air from the appliance
3. Entrance of air into the appliance chamber
4. Exit of air from the appliance chamber

1. Entrance of air into the appliance
2. Exit of air from the appliance to other rooms
3. Entrance of air into the appliance chamber
4. Exit of air from the appliance chamber





1. Entrance of air into the appliance
2. Exit of air from the appliance to other rooms
3. Entrance of air into the appliance chamber
4. Exit of air from the appliance chamber
5. Admission of air from the outside, recommended in houses with poor renewal of air

Note: Under no circumstances should the appliance be cemented into its surroundings. Sufficient space should be left for it to expand and contract freely, typically 5mm around its whole perimeter. It is recommended that at least one of the four hot air outlets of the appliance is connected.

The grills for the entrance of air must be positioned so they are not obstructed.

When installing the appliance all local regulations must be complied with, including those relating to national and European norms

SOME OF THE MOST IMPORTANT CURRENT REGULATIONS

- EN13384-1: 2003 - Chimneys – Thermal and Fluid dynamic calculation methods - Parte 1:
- EN 2006 - Chimneys for appliances
- EN1857: 2003 - Chimneys – Components – flue liners
- EN1457: 1999 Clay/ceramic flue liners - Requirements and test methods
- EN 1806: 2006 - Chimneys – clay/ceramic flue blocks for single wall chimneys - Requirements and test methods
- EN13069: 2005 - Chimneys – clay/ceramic outer walls for system chimneys - Requirements and test methods
- EN 13063: 2006 –system chimneys with clay/ceramic flue liners - Parte 1: Requirements and test methods for sootfire resistance
- EN 12446: 2003 - Chimneys – Components - Concrete outer wall elements
- EN 1443: 2003 - Chimneys – General requirements
- EN1856-1: 2003 - Chimneys – Requirements for metal chimneys - Part 1: System chimney products
- EN1856-2: 2004 - Chimneys – Requirements for metal chimneys – Part 2: Flue liners and junctions

5- Fan kit diagram

- The when installing the equipment must be incorporated in the fixed conduit means to disconnect the apparatus according to the legislation in force.
- If the supply cord is damaged, it must be replaced by the manufacturer or his duly authorized agent, because the power cord has special technical features.

Electric scheme:

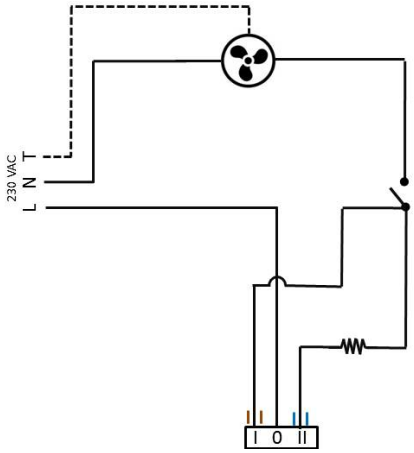


Fig. A-Models one side

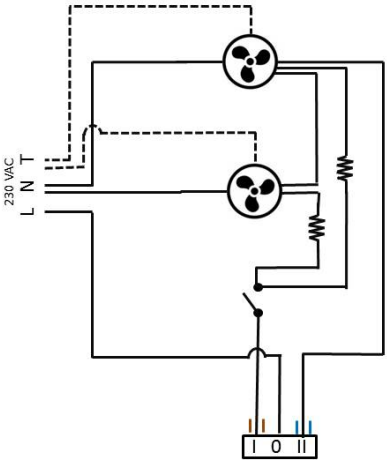


Fig b-Models double side

Operation of the Fan

I – Thermostat, Low Speed
0 – off
II- Manual, High Speed

Danger of Electrocution: *The tasks of handling and installation of the electrical components of the stove ADF, must be carried out by professionally qualified person, aware of the dangers and knowledgeable of the technical characteristics of the elements.*

6- Using the equipment

Ignition

LIGHTING (FROM COLD)

1. When using this appliance for the first time, or after a prolonged break, it is extremely important to carefully examine the chimney and check that it is clean and unobstructed. If you have any problems ask a professional to carry out an inspection.
2. The appliance was designed to function intermittently, with intervals for loading wood of between 45 to 60 min.
3. Completely open the air combustion control. At the bottom of the stove place a product that burns easily (firelighters, pine needles, pine cones or other).
4. On the top of this, place small logs stacked horizontally (around 1Kg).
5. Leave the door slightly open with a gap of 2cm. This will allow air to get in and help the fire get started more quickly and efficiently. Keep the air combustion control completely open.
6. After 5 to 10 minutes close the door reduce the amount of air coming in through the air combustion control.
7. Let the fire burn until it creates the first embers.

Note: Thin and dry pieces of wood should be used for lighting**.**

Normal Procedure – After lighting

1. Open the door slowly, spread the embers equally over the base of the stove
2. Place logs of approximately 1kg each, horizontally. Don't overload the appliance and check the recommended maximum load for your model on the chart for appliance characteristics 7.
3. Close the door
4. Choose a position on the air combustion control to achieve a regular lasting burn, avoid an excessive burn.

Note:

- *You should only reload the stove when the previous load has been completely consumed. Don't overload your stove* ;
- The paint coating the stove was not subjected to cooking in an oven, so it will harden with the first time used. Also why on first use, emission of fumes and odors may occur. Avoid inhalation and ventilate the surrounding space.

Warning: the appliance was not designed to work with the door open. Do not open the door of your appliance suddenly, this could overpressure the combustion chamber causing smoke or even flames to be released into the room.

Warning: if you notice any adverse atmospheric conditions which affect the draw of the smoke it is advisable not to use the appliance.

Warning: for well insulated homes or those with forced air ventilation in the kitchen or bathroom, it is advisable to place a ventilation grill on an outer wall near the appliance. This safety mechanism is important to avoid oxygen in the room from running out and from avoiding smoke from the chimney. The area of the fresh air grill should be at least 100 cm2 and should always be kept unblocked

7-Maintenance and Cleaning

Your appliance can function for various years without any major maintenance operations. However, you can increase its operating life and considerably diminish the risks if you follow these principles of Cleaning and Maintenance.

Cleaning and maintenance operations should always be carried out when the appliance is cold.

Cleaning

- ✓ empty the ash drawer often, thus preventing contact with the ash grate, your cause warping bearing in mind that, these may remain hot enough until hours after flame extinction.
- ✓ If sooting appears on the glass it can normally be removed by using a product specifically for cleaning glass. If the darkening persists, ask ADF or one of our agents for a cleaning product specifically to remove carbon residues.

Maitenance

- ✓ When the cold season ends, a time when your appliance can rest for some time, carry out a comprehensive cleaning of ashes and any residue inside the stove without using any abrasive products.
- ✓ With the help of an ash vacuum cleaner, vacuum the burning chamber.
- ✓ Clean the fan chamber and the fans. This operation should be carried out by a qualified professional.
- ✓ Over time you may think that your appliance needs painting. In this case, paint the appliance using a high-temperature spray paint provided by ADF. You should only paint the appliance when it is completely cold. Before painting, carefully cover any nearby areas that you don't want to paint (glass and hearth) and follow the instructions on the paint can.
- ✓ Clean the chimney and the neck of the chimney (remove flame deflector) at least once a year. If necessary ask a qualified professional to do the job.
- ✓ Periodically check, and replace where necessary, the sealing cord around the door.
- ✓ Only use replacement pieces recommended by ADF.

Fires

This ADF appliance was designed in accordance with existing legislation so as to minimise eventual risks of a fire in the chimney. However, should this occur:

1. Remain calm and check that conditions are safe enough for you to close down the appliance.
2. Completely close the door of the stove.
3. Completely close the admission of air and the flue.
4. The appliance should then go out by itself due to lack of oxygen.
5. If the area is unsafe, then move away from the danger and immediately call the fire services for help using the European emergency number.
6. Before using the appliance again, ask a qualified professional to carry out an inspection of the chimney.

The manufacturer of ADF stoves hereby declares that all models described above are in compliance with general safety requirements. However, it cannot be held responsible if alterations have been made to the product without due written authorization from the Manufacturer.

Manufacturer	Antonino Dias Fernandes, Lda
Adress	Zona Industrial da Relvinha Sarzedo, Apartado 55 3304-909 Arganil
Classification	Solid fuel appliance
Applicable regulations	- NP EN 60335-2-102 - EN 13229:2001
Responsible entity for testing	CATIM – Centro de Apoio Tecnológico à Indústria Metalomecânica Rua dos Plátanos, 197 - Porto

8- Troubleshooting

If you follow all the instructions described in this manual you shouldn't have any problems in enjoying your stove to the full. However, if you do need to seek technical assistance, first check that:

I. All the instructions provided in this manual have been followed.
II. If there have been any changes around the appliance which could have resulted in the problem.
III. If the problem corresponds to any of the following points.

Problem (s)	Possible Cause (s)	Correction (s)
Smoke	→ Flue regulator is closed → Damp or green wood → Dirty or blocked chimney	→ Open flue regulator → Use drier wood → Clean chimney
Burning poorly and inefficiently	→ Damp or green wood → Dirty or blocked chimney → Not enough wood	→ Use drier wood → Clean chimney
Burning too fast	→ Wood is too light → Door not properly adjusted → Sealing cord worn out	→ Fill the stove with thicker wood → Readjust the door → Replace the cord
The fire goes out	→ Damp or green wood → The stove hasn't heated up sufficiently	→ Use drier wood → Heat the stove well by opening the main air regulator
Fan does not work	→ Fuction temperature not achived yet → Energy Break	→ put more wood → verify connections
Glass dirty	→ Damp or green wood	→ Slightly open the air regulator mechanism → Use drier wood

If the problem still persists, then contact us through our agents, or directly, so that our technical assistance services can help resolve the problem.

9- Warranty conditions

Warranty:

We provide five years of guarantee with your ADF appliance, against manufacturing defects

Exclusions:

Glass, refractory, Cord / Tape: Are not covered under warranty, because they are oversized for use temperatures (700-800 ° C) and its use is beyond the control of Manufacturer

Flame deflector, grill Ash are not covered by the guarantee because they are subject to wear and use which is outside the control of the manufacturer (quality of firewood and operating systems)

Conditions of Guarantee:

I. The appliance is within the time limits described above (the beginning of this period of guarantee having begun on the date the appliance was purchased).

II. Complaint must be presented to and validated by one of our agents and evaluated by ADF.

III. The conditions of installation, handling and maintenance described in this manual were strictly complied with and no undue use or alterations or modifications to the appliance have taken place.

IV. The warranty is limited to the replacement / repair by ADF or its agent the admittedly damaged components, and excludes any other sort of coverage or indemnity.

10- Warranty Certificate

Warranty Certificate

Name / Adress of the importer:

Model:_____**Serial No:**_____

Sold to:_____On: _____/_____/_____

Adress:_____

Zip

Code:_____Mobile:_____Email:_____

Stamp and Signature
AGENT

_____
Client Signature

Note: The guarantee covers the exchange and/or restoration by ADF or its agent of the components that are acknowledged as damaged and excludes any other type of cover or compensation such as costs of removal and reinstallation of the appliance.

ATTENTION
On being delivered check the state of the appliance.
The guarantee only covers damage caused during transport if notification has been given and marked on the document acknowledging reception of the appliance within a period of 48 hours.

www.adf.pt
adf@adf.pt